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2010 STAFF ORGANIZATION FOR OPTIMUM C2:
A PRIVATE SECTOR ANALYSIS

by

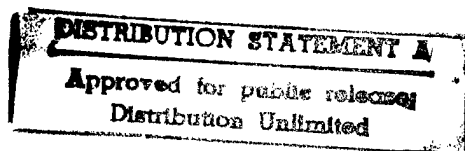
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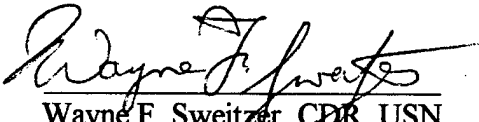
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Abstract of

2010 STAFF ORGANIZATION FOR OPTIMUM C2:
A PRIVATE SECTOR ANALYSIS

Joint Vision 2010 (JV 2010) is designed around the premise that modern and emerging technologies, particularly information related advances, should make possible a new level of battlespace awareness. The power of information and its effects are not unique to the military. A key group of American corporations is taking advantage of information superiority in their businesses. Wal-Mart and Hewlett-Packard have made changes in their staff structures to deal more effectively with the challenges of increased information. The changes have led to reduced staff structures, decentralized execution, and improved control over business operations. Warfighting CINC's can benefit from the lessons learned in the private sector by adapting those lessons to future military staff organizations.

Organizational adaptation is a must in order to provide optimum support to the JFC and achieve Full Spectrum Dominance. The proposed Staff 2010 model attempts to conceptualize what the JFC staff may look like in the future after applying some of the lessons learned from the private sector analysis. Through the use of a networked command and control system and a "matrix" staff structure, the model consolidates the JFC staff into two connected cells, the Command, Control, and Support Cell (formerly J-1, J-2, J-5, and J-6) and the Operations and Resources Cell (formerly J-3 and J-4). The goals of Staff 2010 are to consolidate functions, foster decentralized execution, and allow for centralized control when the operational commander deems it necessary. Once refined, Staff 2010 will better serve the needs of the JFC, ultimately leading to the Full Spectrum Dominance JV 2010 espouses.

2010 Staff Organization for Optimum C2: A Private Sector Analysis

"The only thing harder than getting a new idea into the military mind is to get the old one out." — B.H. Liddell Hart ¹

INTRODUCTION

Joint Vision 2010 (JV 2010) is designed around the premise that modern and emerging technologies, particularly information related advances, should make possible a new level of battlespace awareness in the joint operations arena. Underpinning a variety of technological advances is **information superiority**--the ability to collect, process, and disseminate an uninterrupted flow of information, while exploiting or denying an adversary's ability to do the same. The goal of JV 2010 seeks to achieve **Full Spectrum Dominance**--a joint force persuasive in peace, decisive in war, preeminent in any form of conflict.² If we are to achieve that goal, then some form of organizational adaptation is a must in order to most effectively use information superiority.

The power of information and its potential effects is not unique to the military. That power touches every aspect of our society. A key group of American private sector companies is taking advantage of information superiority in their businesses. The resultant organizational changes have led to reduced staff structures, decentralized corporate execution, and improved control over the scope of business operations. These new dynamics result from the need for increased return on investment, fierce competition between business ecosystems, and the need to shorten the decision making process. It would be naive to suppose that information's effects on the world's largest economy would not touch the military. Indeed it must.³

While the end products of businesses differ from the JV 2010's goal of Full Spectrum

Dominance, there are sufficient parallels between the organizations to validate a comparison. The functions of business organizations are not unlike those of the Joint Force Commander's (JFC) J-1 through J-6 military staff. For the most part, businesses have personnel departments, corporate intelligence, current operations, supply-logistics concerns, long range planning teams, and command and control networks. Most private companies have in the past, organized their staffs in a manner similar to our current structure. Today's thriving companies have adapted their staff structure to meet the growing demands of massive and complex information. What is alarming is that many of those companies who have failed to adapt are losing their war, finding themselves swallowed by their competitors, and even out of business all together.

Warfighting CINCs may be able to benefit from the lessons learned in the private sector. It is possible to adapt the successful organizational models of modern companies to the staff structure currently employed by military staffs. This paper begins by briefly examining the current joint staff organization and evaluating the efficacy of that staff against tomorrow's battlefield and the demands of JV 2010. Several cases are then examined in which organizational adaptation has lead to increased efficiency and decentralized execution in the private sector. Finally, based on that analysis, this paper will propose a suggested model for JV 2010 staff organization, and attempt to validate the model (the "so what test") by illustrating its value to the CINC 2010.

CURRENT STAFF ORGANIZATION

Joint staffs are organized on the conventional staff model. The advent of extensive joint operations during World War II and the institution of the unified command structure after the war forced consideration of which type of staff organization would be best suited to

such commands. For a variety of reasons, the general staff organization adopted by General Pershing from the French in World War I and developed by the Army and Marine Corps evolved as the model for the U.S. staff.⁴ The basic composition of the JFC's staff, rooted in the early 20th Century, still exists today. Joint commanders individualize a staff system that satisfies their needs, one that can be used commonly by officers from different services who make up their staffs. Yet, the fundamental staff composition is consistent among all services and extends to combatant commands, joint task forces, component commands, and joint agencies alike.⁵

Joint Publication 0-2 outlines the principles and doctrine that govern joint activities and the performance of the Armed Forces. Members of the joint staff are responsible to the joint force commander, and each staff division must coordinate its actions and planning with the other staff divisions.⁶

Figure 1 illustrates the broad functional subdivisions of a typical joint staff organization. The commander's staff is broadly categorized into personal staff, special staff, and general or joint staff divisions. Since the general or joint staff's responsibilities lie in developing policy, preparing and coordinating plans, and executing the warfighting responsibilities of the CINC, the focus will be on this portion of the organization.⁷

It is first important to examine the various functions of today's typical staff organization, keeping in mind that each of these current functions has a parallel in the private sector.

The J-1 directorate is responsible for managing manpower and personnel, similar to a personnel or human resources department in the private sector. The J-2 division's function is

A Joint Staff Organization

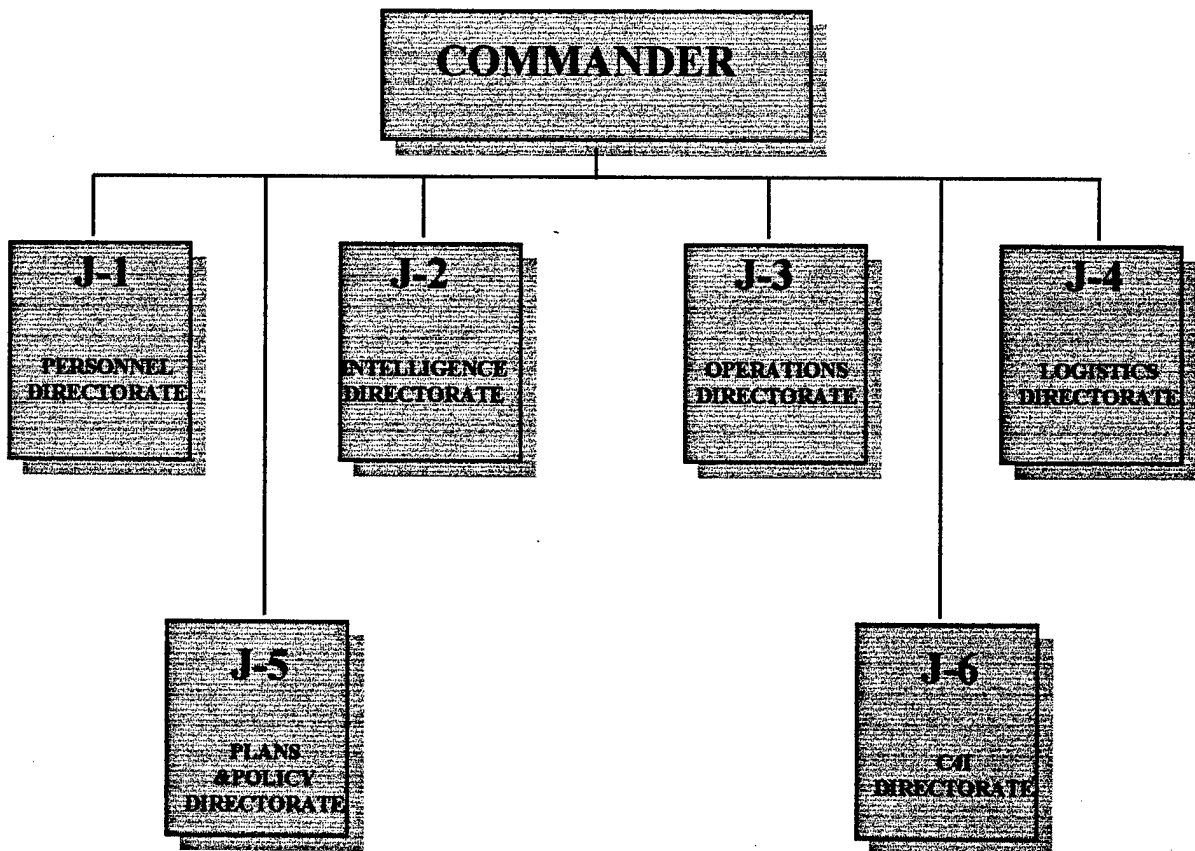


FIGURE 1

to ensure that the joint command has sound intelligence on the area of operations and the location, activities, and capability of the enemy. All large corporations have a similar corporate intelligence function where strategists look at the capabilities and likely courses of action of their competitors in response to the changing market environment. The operations or J-3 division's work begins with the initial planning and extends through the integration and coordination of joint operations. In the private sector, Chief Operations Officers are charged with similar tasks for their companies. The J-4 or logistics division develops logistics plans and supervises supply, maintenance, repair, evacuation, transportation, construction, and

related logistics activities. In a similar way businesses are particularly concerned with the flow of products, supplies and goods to their customers.

The military J-5 plans and policy division does the long range planning, prepares campaign, concept, and operations plans and the associated Commander's Estimate of the Situation. Companies utilize long range planning cells to adjust business activities to meet projected consumer and market demands. Finally, the command, control, communications, and computer systems division (J-6) functions as the handlers for communication policies, operational communications, and the management and development of electronics and automatic information systems.⁸ There is an obvious corporate parallel to this division (e.g., Chief Information Officer) and as we shall see, the bulk of corporate organizational adaptation has used command and control systems as the cornerstone of their redesign.

Distinct and direct comparisons can be made between these military functional areas and the parallel functional areas in business. Comparison reveals organizational lessons from the corporate sphere that may apply to the organization of the JFC staff in order to better help the warfighter as he or she tries to meet the demands of JV 2010.

DEMANDS OF JOINT VISION 2010

The long-term process of achieving JV 2010 capabilities requires a disciplined approach that projects the nature of future joint operations, assesses the merit of alternative organizational concepts, and directs changes necessary to meet 2010 challenges.⁹ JV 2010's goal of Full Spectrum Dominance will demand operational commanders with keen abilities to make timely and informed decisions on the allocation of resources and the conduct of operations. Increased battlespace awareness through information superiority, much like the effect of increased information in the corporate world, will require quicker and more efficient

cooperation and integration among the JFC's staff.

The current J1 through J6 organization may not provide optimum support to the commander. For example, a single precision engagement would be operational (J-3), and would require planning (J-5), for the use of offensive information warfare (J-3), and munitions based on availability (J-4), against the most important targets (J-2), and would rely heavily on information systems, defensive information warfare, and information security (J-6).¹⁰ In addition, JV 2010 acknowledges the danger of potential adversaries also benefiting from increased information. Businesses with stagnant staff structures are lagging behind innovative ones who have made forward-looking changes to their organizations.¹¹ If our organization fails to evolve while an adversary's does, we may find ourselves at a significant disadvantage in combat. While admittedly difficult, organizational adaptation is a must in order to achieve Full Spectrum Dominance.

Network-Centric Warfare, one of the key tenets to meet the demands of increased information, is adopted by the Joint Staff J-6. The current revolution in military affairs concerning Network-Centric Warfare has recognized the need to restructure certain organizational paradigms for maximum effectiveness in the anticipation of achieving JV 2010's goals. This paper's examination of how businesses have adapted indicates that much of the organizational evolution in the military should center around the use of a networked command and control system which when implemented, will reduce and consolidate staff structure, allow for decentralized execution, and increase the commander's control over a more encompassing sector of the 2010 battlespace. Achieving information superiority and using it effectively through reorganization will enable increased battlespace awareness and

ultimately, Full Spectrum Dominance. How organizations are structured to effectively cope with information superiority, will be the subject for the remainder of this paper.

PRIVATE SECTOR ANALYSIS

In private sector organizations, the ability to adapt the organization to meet the demands of information has become a predictor for success. The converse is also true. Bill Gates, founder and CEO of Microsoft Corporation, expresses fear that complacency and arrogance within the staff will replace communication and action. Gates notes that creating the capacity for change keeps organizations fresh and alive.¹²

The change to which Gates refers is being necessitated by what is known as the “new business cycle”. Tied to the health of the high-tech sector, the new cycle is driving the shift toward computer integration, software and communications based decision making, and has had a pronounced impact on the way all businesses organize for success.¹³

The focus on information has led to organizational adaptation in the most thriving of corporations. Modern business staffs have largely done away with the old hierarchy that boxed people and functions in rigid squares and rectangles. With increased speed of information, corporate leaders are forced to consolidate their staffs with more functional crossover in authority at a lower level. The “stovepipe” staff organizations of the past are not sufficient to keep up with the increased volume of real time information, and the time-critical decision cycle that results. With shortened decision cycles, successful operational execution is being pushed downward to a lower level. Yet through a networked system of control, business leaders are still able to personally direct the operation if the problem merits their attention.¹⁴ Many companies stubbornly wed to the orthodoxy of stagnant organizational structure are finding themselves at a disadvantage, or even in some cases, facing extinction.

Networking at Wal-Mart. No one in business has a better information back-plane, or information and sensory structure, than does Wal-Mart.¹⁵ Using a networked command and control system, the company has been able to consolidate much of its marketing (J-2), supply (J-4), and planning (J-5) divisions concerning certain products. When an item is purchased at a retail store and is scanned by the clerk, that information is automatically sent to a single department. When considered with other sales data, the summation gives one functional department decision-critical information on how well the product is selling (J-2), how many more products need to be ordered (J-4), and what strategies might need to be adapted to sell more of that product (J-5).

Wal-Mart has taken the process even farther to decentralize business operations. Selected information is sent directly to the supplier-manufacturer who can anticipate Wal-Mart's request for more of the product, and even initiate the delivery of the product without a single action by a Wal-Mart employee. Company leadership exercises full control over the process through access and input to the network control system. Based on certain business factors, leaders may also apply more or less input to the process, effectively controlling the level of centralized or decentralized execution of that process.

The system has given Wal-Mart an enormous cost advantage in the market. Manpower savings have been significant as well. The company has been able to consolidate three functional departments into one, and has changed from a hierarchical stove pipe structure to a flatter, more integrated staff structure. Wal-Mart's principle competitor, K-Mart, only recently followed this lead, and as a result, had seen its revenues, earnings, and overall market share decline vis-à-vis Wal-Mart for several consecutive years.

Staff redesign at Hewlett-Packard. As of 1996, Hewlett-Packard (HP) employed more than ninety-four thousand people in more than sixty divisions worldwide, produced more than eleven thousand products, and generated \$31.5 billion in revenue. Like the military, HP is a very large organization.

In 1992, one of the largest of the company's divisions in Santa Clara, California, underwent an experimental staff redesign. The division identified two major areas of concern. The first had to do with its existing vertical stove-pipe staff structure, characterized as "dysfunctional", and the relationship between the top management (JFC) and functional business teams (J-1 through 6).¹⁶ People within their functional boxes had no time-effective means to pass on and utilize information, and there was often little or no coordination between "boxes" without first routing information to a higher level. By the time information did get passed on, it was often too late to effectively act on it. The vertical organizational structure had outlived its effectiveness.

A second identified problem concerned execution. As the company's product diversity grew, so did the need to speed response to customer problems. With increased speed of information came demands by the customer to handle a wider range of problems more quickly. HP recognized the need to develop the means to allow smaller field units to resolve problems away from the home office. With decentralized execution came the need for corporate headquarters to effectively communicate with, and if necessary, influence the actions of the field teams.¹⁷

An overarching recommendation from the organizational design engineering team at HP was to replace the functional hierarchical structure with a more integrated and flatter matrix structure in which functional lines of authority were overlaid. The goal was to

compress decision time and optimize the use of information systems--a goal shared by the JFC. Dismantling the functional organization and reorganizing the division around clustered businesses, HP sought changes to remove barriers and create a more blended staff. When networked, the new staff would take advantage of crossover between functions.

The division staff at HP had been organized much like the current military model (see figure 2). After redesign, several of the functional areas were consolidated and integrated into one unit positioned at division headquarters, while smaller operating field managers (J-3) executed company business away from the home office directly with the customers (see figure 3). General managers (CINCs) maintained centralized command and control through an integrated network system. The network provided critical information to units in the field concerning marketing (J-2) and planning (J-5) strategies. HP integrated its marketing and planning functions within the network to deal efficiently with present and future customer requirements (targeting). By decentralizing execution with the control network, HP reduced its staff, increased information flow by the consolidation of functional areas, sped the process of material re-supply for production (J-4), and allowed division units the ability to better meet customer needs. The results have directly translated to increased profits and market share for HP's products.¹⁸

As seen in both the Wal-Mart and HP cases, information technology coupled with organizational adaptation can translate into smaller and more efficient staffs, and increases the ability of the organization to more effectively attack a wider range of conflicts through remote connectivity and decentralized execution.

The successful business organization of the future will continue to evolve into something decidedly different from today's norm. Corporate staffs will need to be active in

Hewlett-Packard Before Redesign

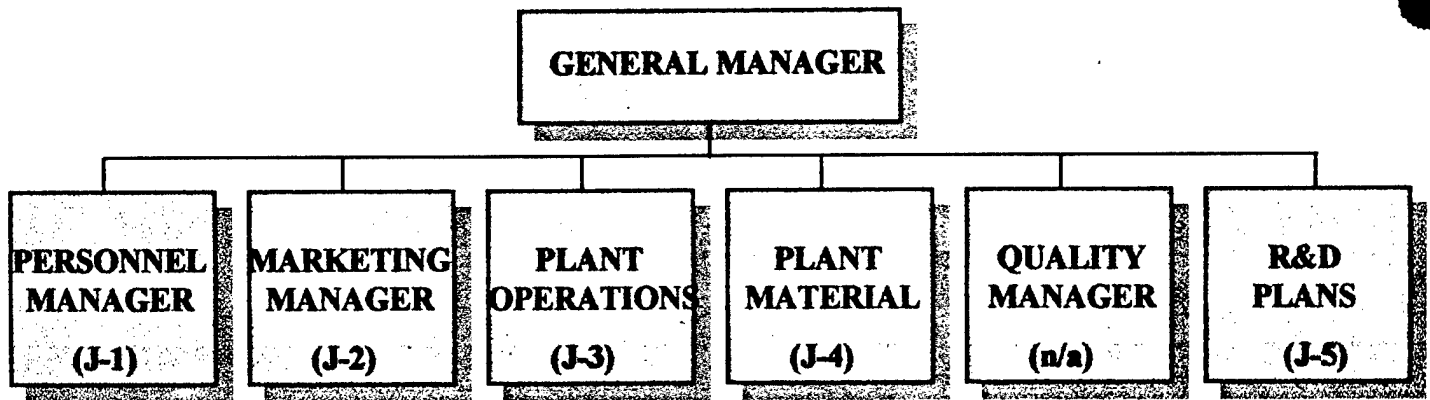


FIGURE 2¹⁹

After Redesign

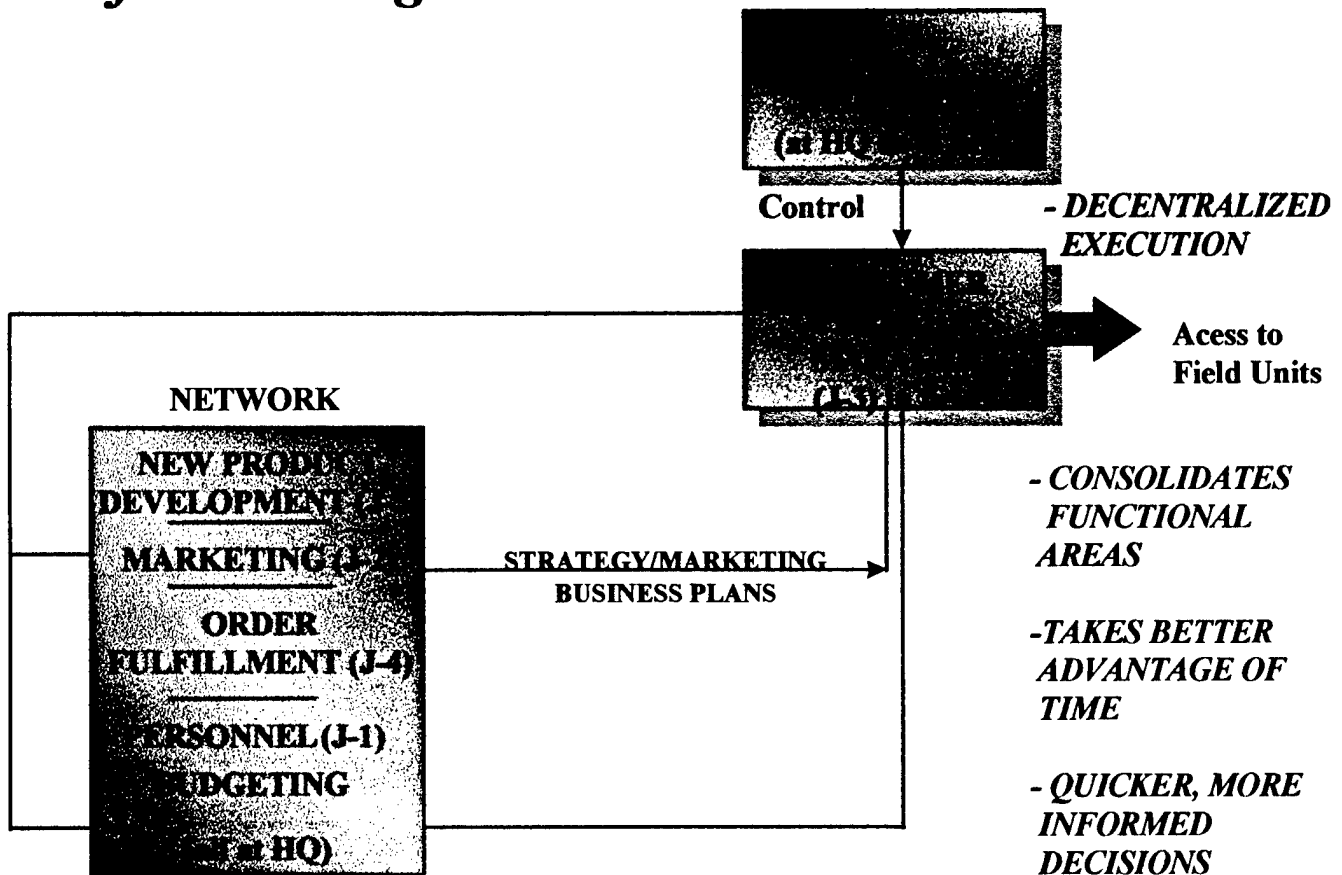


FIGURE 3²⁰

managing information at lower levels. Functional decision making patterns that today are constrained and blocked by long-standing boundaries will be replaced by patterns of free movement across boundaries with less structure.²¹ Many of these private sector lessons can be applied to better meet the CINC's challenges of JV 2010.

CINC 2010: A NEW STAFF STRUCTURE TO MEET THE DEMAND

"We need to foster an ethos of experimentation, of a willingness to risk, and of innovation." VADM Arthur K. Cebrowski, USN²²

To fully realize the potential of Joint Vision 2010, operational commanders need to re-think the existing paradigm of the staff structure in order to optimize Command and Control (C2) in conflict.

Through information superiority, 2010 commanders will potentially be effective over a much wider span of operations than in the past. With the advent of a smaller, more integrated staff along with an effective command and control network, JFCs may be able to control more forces with a smaller immediate staff. The result will be a "flatter" organization with fewer layers between combatant commanders and the war fighter.²³

Business solutions can be successfully applied to the military sphere because both organizations face similar types of challenges. Each is faced with a glut of information and the need to make time-critical decisions across the entire spectrum of operations. After examining successful business adaptations to the challenges of information superiority, this paper suggests certain changes to our existing C2 structure, as illustrated in figure 4.

The 2010 model is an attempt to conceptualize what that organization may look like. Many of the principles used in its design have roots in private sector businesses. The model consolidates the operational staff into two connected cells. At the heart of the structure is the

CINC 2010 STAFF STRUCTURE

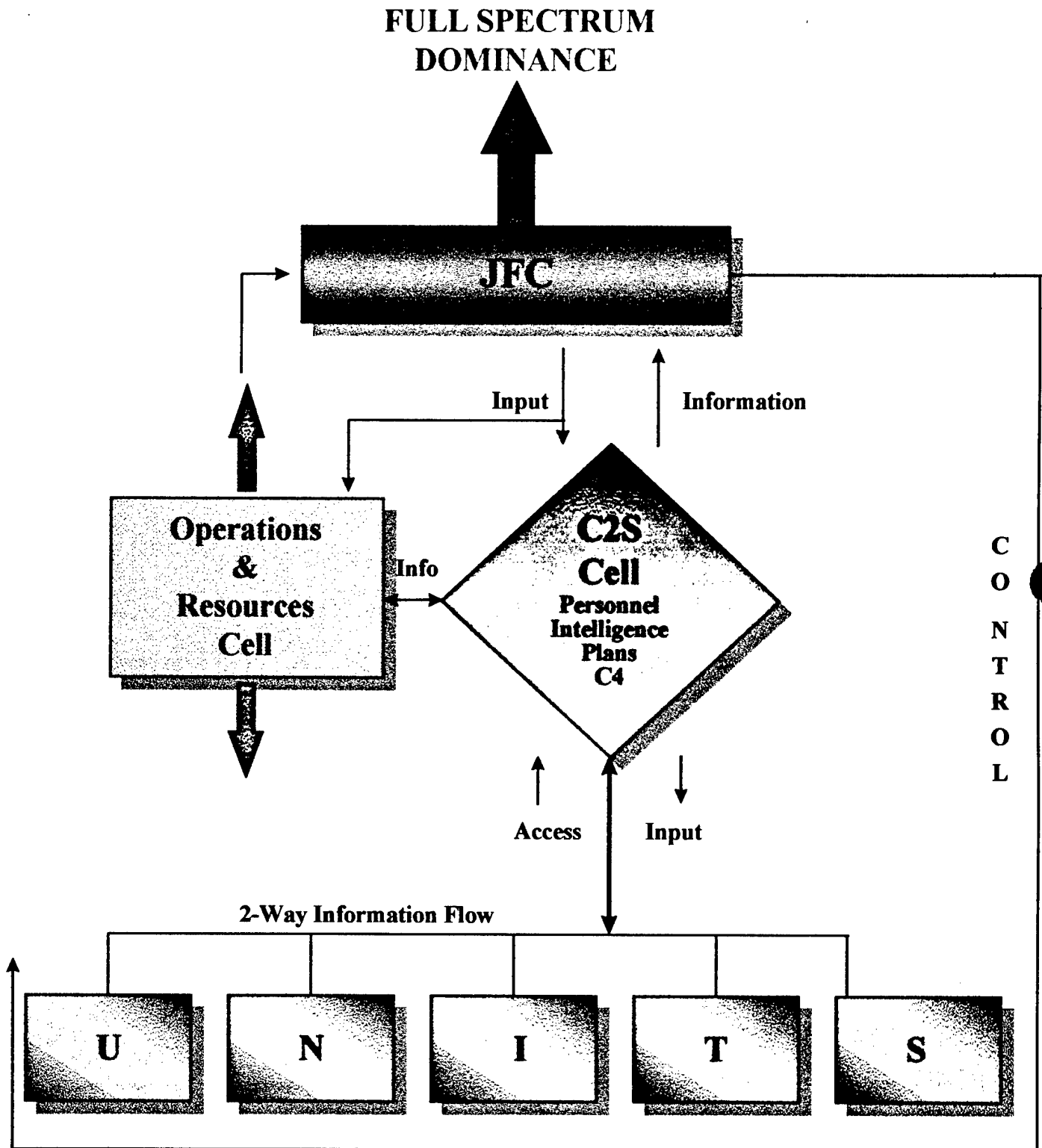


FIGURE 4

Command, Control, and Support (C2S) Cell. Optimum C2 and support will depend on seamless communications, real-time sensors, current and accurate data bases, and the resulting real-time battlespace awareness for the JFC and the entire organization.²⁴ Utilizing an integrated network, this cell will process the volumes of information required and will almost instantly provide feedback to the users on the network and to the JFC directly. In essence, the C2S Cell will have command and control over information but not over the execution of engagements. Actual execution will be controlled by the Operations and Resources (O&R) Cell discussed below.

While the model's objective is to decentralize execution of operations, the JFC must maintain the ability to influence decisions in the field. Commanders must articulate their overall intent succinctly for decentralized execution to work. In times of crisis, the JFC will have direct decision authority over both cells, and may effect explicit centralized control when situations dictate.

The model also attempts to consolidate functional areas. Accordingly, the C2S Cell must not be limited to what today are known as the J-6 functions. Personnel, intelligence, and plans functions would be integrated into the cell, in much the same way as parallel functions were successfully integrated at HP. Integration would foster cross-flow of information between functional specialists formerly burdened by "boxes". During combat operations, the C2S Cell would provide near-real time targeting information to the JFC and subordinate units, just as integration of marketing and plans within the network at HP more effectively provided corporate strategy to the general manager and field units.

Units under the control of the JFC must have two-way access to the C2S Cell. Networked information from the units will paint a picture for the JFC, providing an accurate

and timely view of the battlespace allowing leaders to more fully leverage the capabilities of the entire force.

The Operations and Resources Cell (formerly J-3 and J-4) will continue to perform existing functions moving toward dimensional superiority in the air, on land, at sea and in space. The cell will acquire the key task of recommending to the JFC whether a given operation could be decentrally executed, or if a more centralized control approach is more appropriate.

The cell will establish a more seamless connectivity between actual operations and the resources required on all levels to execute them and, as in the Wal-Mart case, will use the C2S Cell's network to process supply requirements for delivering material to the warfighter. JV 2010 logistics forces should be operationally focused, anticipatory, tailored-to-task, agile, and readily deployable.²⁵ Accordingly, the O&R Cell will integrate the former J-3 and J-4 functions. This aspect of the model will support JV 2010's concept of focused logistics.

The O&R staff element, through integration with the C2S Cell, will be able to deploy with field units under the JFC control, and will have better situational awareness throughout the battlespace. The O&R staff will thus have a better feel for the readiness, morale and logistical requirements of subordinate units, and can better assess the ability of those units to carry out the JFC's intent.

Staff 2010: The Practical Application. Once refined, the new staff structure (Staff 2010) will better serve the needs of the JFC, ultimately leading to the Full Spectrum Dominance to which JV 2010 espouses. Some of the key advantages of the proposal are as follows:

Wider Range of Operations. Information superiority will enable decentralized execution giving JFCs more freedom to push decision making to the lowest level desired to maximize resources and time. Units will carry out operations over a wider range of the space spectrum and a smaller range of time. Advanced C2S capabilities will increase the ability of all subordinate commands to act decisively to carry out the commander's intent.

Centralized Control an Option for the Commander. A danger associated with decentralized execution is the possibility that JFCs might lose control of subordinate units in the field. Through the effective use of the C2S and O&R Cells, centralized control of forces can be maintained whenever the commander deems the circumstances warrant.

Consolidates Functional Areas. Staff 2010 will reduce the numbers of separate functional boxes and eliminate the stove-pipe organizational structure. Information superiority and processing speed will demand more knowledge cross-flow between functional specialists on the staff. The consolidated cells will foster that cross-flow and help to speed decision making.

Remote Connectivity. With the advent of the C2S Cell and its network, staff functions will be accomplished in a single, fixed location even as the commander moves about the battlespace. Protection and logistics requirements can be reduced if a portion of the staff operates from a remote, secure area, perhaps even from CONUS. The "virtual" staff meeting will allow all participants to interact yet will permit the JFC to be extremely mobile and physically accompanied by a very small number of the staff.²⁶

Better Human to Human Interface. An organization and its systems will never completely replace human interface or the value of face-to-face contact. The Operations and Resource Cell will directly interface with subordinate commanders in the field while

maintaining contact with the JFC through the network. Reduced staff structure will also afford the commander better opportunities to meet directly with field units

CONCLUSIONS and RECOMMENDATIONS

"Note that there are winners and losers. And also note that, to a large extent, whether a company becomes a winner or a loser was related to its degree of adaptability."

Andy Groves, President and CEO, Intel Corporation

Changing our time- and conflict-tested staff structure will be difficult. Successful organizations always find it hard to give up organizational concepts that have worked well in the past for the mysteries and challenges of a new order. Organizations, especially ones as large as the United States military tend to cling to what has worked. Even visionary leaders find courage elusive when the familiar path has proven to be so successful. Yet if we are to fully realize the potential of the "vision" of Joint Vision 2010, we must be willing to experiment with new structures which will maximize our ability to achieve Full Spectrum Dominance. Resistance to change, however, is but one of the challenges we will face along the way.

The C2S network, so critical to the success of this model, is a system that must be so completely developed that its operation, integration, and understanding becomes almost instinctive for all users. Having a "system of systems" that confuses its users will only degrade the capabilities of forces and lead to frustration among operators in the field. The system must also be completely developed and tested against computer hackers and system failures at inopportune times. These issues present difficult challenges, yet are ones that must be addressed and conquered if the vision is to be truly realized.

This specific proposal moves the JFC staff toward one of the goals of JV 2010: to use information technologies to reduce staff size, and decentralize the execution of operations

while allowing for appropriate involvement of the JFC.²⁷ This paper does not propose to provide all of the solutions; rather, it is intended as a "jumping off point" for further consideration. These new concepts are, of necessity, "high-level" with many specific details in need of development.

The 2010 staff organization must be built upon the premise of flexibility for the journey which leads to fulfillment of the vision of JV 2010 has many stops. Along the way, the new organization will need to be constantly tested with an eye toward continual evolution and adaptation to maximize our effectiveness in the joint arena at every level. If we maintain the courage to explore and evolve, then the goal of Full Spectrum Dominance may indeed be realized.

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